



K-STATE
Research and Extension

Extension Agronomy

eUpdate

01/15/2016

These e-Updates are a regular weekly item from K-State Extension Agronomy and Steve Watson, Agronomy e-Update Editor. All of the Research and Extension faculty in Agronomy will be involved as sources from time to time. If you have any questions or suggestions for topics you'd like to have us address in this weekly update, contact Steve Watson, 785-532-7105 swatson@ksu.edu, Jim Shroyer, Crop Production Specialist 785-532-0397 jshroyer@ksu.edu, or Curtis Thompson, Extension Agronomy State Leader and Weed Management Specialist 785-532-3444 cthompso@ksu.edu.

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1. Winter/spring options for winter annual broadleaf control in wheat

There are several herbicide options for controlling winter annual broadleaf weeds in wheat. Generally, fall applications will provide the best control of winter annual weeds with any herbicide, as long as the weeds have emerged. The majority of winter annual weeds usually will emerge in the fall, although you can still have some emergence in the spring, especially if precipitation after planting is limited in the fall. However, winter annual weeds that emerge in the spring often are not very competitive with the crop, at least in years when there is a decent crop.

Some herbicides can work well even when applied during the dormant part of the season, while others perform best if the crop and weeds are actively growing. The key difference relates to the degree of soil activity provided by the herbicide. Herbicides that have good residual activity, such as Glean, Finesse, Amber, and Rave can generally be applied in January and February when plants aren't actively growing and still provide good weed control, assuming you have proper conditions for the application. Most other herbicides, which depend more on foliar uptake, will not work nearly as well during the mid-winter months, when the wheat and weeds aren't actively growing, as compared to a fall or early spring application.



Figure 1. Broadleaf weeds in wheat at young stage. Photo by Dallas Peterson, K-State Research and Extension.

Spring herbicide applications can be effective for winter annual broadleaf weed control as well, but

timing and weather conditions are critical to achieve good control. Spring applications generally are most effective on winter annual broadleaf weeds soon after green-up when weeds are still in the rosette stage of growth, and during periods of mild weather. Once weeds begin to bolt and wheat starts to develop more canopy, herbicide performance often decreases dramatically.

Spring-germinating summer annual weeds often are not a serious problem for a good healthy stand of wheat coming out of the winter. However, if wheat stands are thin and the wheat is very late developing, early-germinating summer annual weeds such as kochia, Russian thistle, and wild buckwheat may be a problem, especially at harvest time. Many of these weeds may be controlled by residual herbicides applied earlier in the season. If not, postemergence treatments should be applied soon after weed emergence and before the wheat gets too large in order to get good spray coverage and achieve the best results.

Another important consideration with herbicide application timing is crop tolerance at different application timings. For example, 2,4-D should not be applied in the fall or until wheat is fully tillered in the spring. On the other hand, any herbicide containing dicamba can be applied after wheat has two leaves, but should not be applied once the wheat gets close to jointing in the spring. Herbicides containing dicamba include Banvel, Clarity, Rave, Pulsar, Agility SG, and several generic dicamba products. Dicamba is one of the most effective herbicides for kochia control, but if the wheat is starting to joint, it shouldn't be applied. At that point, Starane Ultra or other herbicides containing fluroxypyr would be a safer option and could still provide good kochia control. Most other broadleaf herbicides in wheat can be sprayed from the time that wheat starts tillering until the early jointing stages of growth, but the label should always be consulted to confirm the recommended treatment stages before application.

The best advice regarding crop safety with herbicide-fertilizer combinations and application timing is to follow the label guidelines. We generally see minimal crop injury and no yield loss from topdress fertilizer/residual herbicide applications during the winter months. However, these combinations can often cause considerable burn to the wheat if applied when the crop is actively growing and with warmer weather. The foliar burn is generally temporary in nature and the wheat usually will recover if good growing conditions persist, but the risk of serious injury increases after wheat starts to joint.

Dallas Peterson, Weed Management Specialist
dpeterso@ksu.edu

2. Gully erosion control is an important issue on rural, suburban, and urban land

Gullies can have serious negative impacts including loss of cropland, loss of access to a portion of land, and reduced water quality downstream from the affected area.

Why do gullies form?

Gullies can form because of a combination of topography, land use, climate, weather events, and soil properties. Gullies are usually triggered because of a change in land use practices and are exacerbated by intense storms. When runoff exceeds infiltration, soil erosion by water begins. Any activity that disturbs soil structure can contribute to erosion. Ironically, whether soil structure is loosened with tillage or compacted by traffic, water movement into the soil can be negatively impacted. Gullies form when water concentrates into a flow path.

Practices such as tillage in crop production, subdivision development, road construction, and over grazing have the potential to negatively alter soil structure, making gully formation an issue for both rural, suburban, and urban landowners. Many recent questions on gully formation received by Extension specialists have come from small property owners.

Two types of gullies

Classical gullies are concentrated flow erosion features that are too large or deep for normal farming implements to cross.

Ephemeral gullies are small channels of eroded soil that form in unprotected soils (such as cropland and construction sites) during extreme storm events. These gullies are shallow enough they can be removed by tillage.



Figure 2 Ephemeral gully. Photo by Aleksey Sheshukov, K-State Research and Extension.

How can gullies be controlled?

Treatment of classical gully erosion is costly. It is worthwhile to do so, however, because if it is not controlled, the gully will continue to become larger and damage more land area. The land must be filled and graded, permanent vegetation such as trees or grasses would need to be established, and permanent control structures would have to be designed and installed (see section below on where to go for help).

Treatment and prevention of ephemeral gullies is best accomplished with a two-fold approach. First, practices that increase infiltration across the whole field or site are very important, and that involves rebuilding soil structure. This can be done with no-till farming practices or by rapidly establishing vegetation, such as planting temporary cover such as spring oats. The second aspect is to establish permanent structures on the ephemeral gully itself, such as a grassed waterway, terraces, diversions, or possibly a sediment basin or pond. In a field with active gullies, it is imperative to use both soil-structure building practices and structures that control runoff, otherwise the problem will come back with the next intense rainstorm event.

Where to go for help

If you have either type of gullies, immediate action should be taken to control them before they get any bigger. The best place to begin is your local USDA-Natural Resources Conservation Service office, which you can locate on the Contact Us page at <http://www.nrcs.usda.gov/> Each and every situation is different, and the NRCS staff are able to provide technical expertise on the strategies that would best address your particular site.

Resources

USDA, 2007 publication, *Gullies and Their Control*:

<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17826.wba>

K-State Research and Extension publication MF-1064, *Maintaining Grassed Waterways*:

<http://www.bookstore.ksre.ksu.edu/pubs/MF1064.pdf>

K-State Research and Extension publication C-709, *Terrace Maintenance*:

<https://www.bookstore.ksre.ksu.edu/pubs/C709.pdf>

DeAnn Presley, Soil Management Specialist

deann@ksu.edu

Aleksey Sheshukov, Water Quality Specialist, Biological and Agricultural Engineering

ashesh@ksu.edu

3. Cover Your Acres Conference, January 19-20 in Oberlin

K-State Research and Extension is teaming up with the Northwest Kansas Crop Residue Alliance to host the 13th annual Cover Your Acres Winter Conference for crop producers and consultants Jan. 19-20 at the Gateway Center in Oberlin, Kansas. The same program will be offered both days of the conference.



Cover Your Acres January 19 and 20, 2016
Winter Conference Gateway Conference Center
Oberlin, KS

- Weed Control
- Soil Biology and Carbon in Dryland Ag
- Economics of Soil Fertility Management
- UAVs in Crop Production
- Today's ag economy vs. the 1980's
- Finding Profitability
- Managing the highs and lows of soil pH

AND MORE!
Same program offered both days, come Tues., Wed., or both
10 CCA and 3 Commercial Applicator Credits Available
\$50 Walk-In Registration (includes lunch and materials)
Gateway Conference Center, US 36/83 Oberlin, Kans.

 www.northwest.ksu.edu/CoverYourAcres

Cover Your Acres is a producer-driven meeting focused on new ideas and research-based updates in crop production in northwest Kansas and the central High Plains region.

The conference, which typically draws more than 600 attendees from Kansas and other states, highlights the latest technology, methods and conservation practices to improve crop production in the region. This year it will feature university specialists and industry representatives discussing issues such as kochia and palmer amaranth control, soil microbiology, new pests in wheat and sorghum, farm profitability, managing soil pH, UAVs, weather forecasting, the economics of fertility management, and an economic comparison of today's farms to those of the 1980's. The same programs will be offered both days of the conference. Registration will begin at 7:45 a.m., with educational sessions ending at 5:00 p.m. followed by a "bull session" on Tuesday evening, where attendees can visit with industry and university specialists.

After Jan. 14, the registration fee is \$50 per day. The conference fee includes lunch and educational materials. Continuing education unit credits are available for commercial applicators and certified

crop advisors.

Mail your registration, with a check payable to KSU, to the Northwest Area Office, ATTN: Cover Your Acres, P.O. Box 786, Colby, KS 67701. To view the conference details and for online registration, visit www.northwest.ksu.edu/coveryouracres. For questions, call 785-462-6281.

Major sponsors of the conference include Bayer CropScience, EGE Products, Hoxie Implement, Lang Diesel, National Sunflower Association, PacLeader Technology, Plains Equipment Group, Sims Fertilizer, and Surefire Ag Systems.

Lucas Haag, Northwest Area Crops and Soils Specialist
lhaag@ksu.edu

4. Kansas Agricultural Technologies Conference, January 21-22 in Junction City

The 19th Annual Kansas Agricultural Technologies (KARTA) Conference will be held January 21-22, 2016 in Junction City at the Geary County Convention Center / Marriott, 310 Hammons Dr.

This annual event brings hundreds of agricultural producers and industry leaders together for a two-day interactive workshop on the ever-changing precision agriculture industry. There will be presentations on a wide variety of topics dealing with precision agriculture. The two-day event also includes vendor displays, the KARTA Annual Meeting, research presentations from grant recipients, and an interactive evening discussion that is always an attendee favorite.

**Nineteenth Annual
Kansas Agricultural
Technologies Conference**

Courtyard by Marriott &
Geary County Convention Center
310 Hammons Dr.
Junction City, Kansas
January 21-22, 2016

The following schedule of events is subject to
change. Visit www.KARTAonline.org for updates.

THURSDAY JANUARY 21st

8:00 Registration/Coffee & Rolls
8:45 Welcome & Announcements
 Jeff Baubler, KARTA President
9:00 Agrifying Weather Data: Making a
 Difference in Precision Farming
 Tim Parquet, WDT
10:00 Vendor Presentations
10:30 Break
10:45 Realities of Precision Farming for Corn:
 A Case Study of Variable Rate Seeding
 Joe Lawler, University of Wisconsin
11:45 Vendor Presentation
12:00 Lunch
1:00 Vendor Presentation
1:15 KARTA Research Presentations
 2015 Grant Recipients
2:30 Break
2:45 Seeding Technology: Present & Future
 Randy Taylor, Oklahoma State University
4:00 Vendor Presentations
4:30 Update on the Kansas Windbreak
 Crop/Yield Study

4:50 Break
4:50 KARTA Annual Business Meeting
6:00 Dinner & Social
7:20 European Agriculture: Reflections from
 10 Days in Germany & Agritechnica, the
 World's Largest Farm Show

FRIDAY JANUARY 22nd

8:00 Coffee & Rolls
8:30 Precision Ag Implementation on an
 Oklahoma Farm
 Levi Johnson, Johnson Farms
9:30 Vendor Presentations
10:00 Break
10:15 Site-Specific Weed Management
 Anita Dille, Kansas State University
11:15 KARTA Research Presentations
 2015 Grant Recipients
12:15 Lunch
1:15 Vendor Presentation
1:30 Multi-Hybrid Planting
 Jason Valasek, Beck's Hybrids
2:30 Break
2:45 KARTA Research Presentations
 2015 Grant Recipients
4:00 Conference Wrap-Up & End Statement

CCA CREDITS
CCA credits will be applied for.

2015 RESEARCH PROJECTS

Possible Research Presentation Topics

- Ascend on Winter Wheat
- Ascend on Corn
- Corn Pop-Up Fertilizer
- Sorghum Seeding Rate Evaluation
- Canola Seeding Rate Evaluation
- Corn Yield After Double-Crop
- Twin-Row Corn Evaluation
- Site-Specific Lime Evaluation
- Site-Specific Soil Amendments Evaluation

BOARD NOMINATIONS

If you would like to nominate yourself or another KARTA member to serve as a volunteer member of our Board of Directors in 2016, please email kartoonline@yahoo.com with their name, phone number, email address, and mailing address if possible. Board members meet virtually a few times per year and conduct most business by email. Get involved, and make a difference in the future of agriculture!

CONNECT WITH US

We exist to help ensure a bright future for the agricultural industry, and we need YOU to join the conversation.

✉ media@kartoonline.org
🌐 www.KARTAonline.org

REGISTRATION FORM

Name: _____
Organization: _____
Address: _____
City, St, Zip: _____
Phone: _____
Email: _____

Please make the appropriate registration selection. Fees include lunch both days, dinner on Thursday, and refreshments during the breaks for one person. No refunds after January 15, 2016.

\$225 \$225 Conference Registration
 Make payable to Kansas Ag Research & Technology Association (KARTA)

-\$50 \$50 Discount if Postmarked before January 15, 2016

If you would like to obtain or renew a KARTA Membership, please mark the following:

+\$100 \$100 2016 KARTA Membership

-\$50 \$50 Discount for KARTA Members

Total Enclosed

Complete and return by mail:
KARTA
6009 K Road
Ness City, KS 67560

OR use our **ONLINE REGISTRATION** at
www.KARTAonline.org

The conference is co-sponsored by K-State Research and Extension and the Kansas Agricultural Research and Technology Association, whose members are producers, university researchers, and industry professionals focused on learning about agricultural production and technological and informational changes on today's farms.

There is a fee for this conference, and you must register. More information, including online registration is available at www.KARTA-online.org. Information is also available by contacting Lucas Haag, K-State Research and Extension Northwest Area Crops and Soil Specialist, at 785-462-6281 or lhaag@ksu.edu.

Lucas Haag, Northwest Area Crops and Soils Specialist

lhaag@ksu.edu

5. K-State Soybean Schools scheduled for late January



A series of four K-State Soybean Production Schools will be offered in late-January 2016 to provide in-depth training for soybean producers.

The one-day schools will cover issues facing soybean producers: weed control strategies, crop production practices, soil fertility and nutrient management, insect and disease control, and risk management.

The schools will begin at 9 a.m. and adjourn at 2.30 p.m., including a farmer panel at the end of the School. The dates and locations are:

Jan. 25: **Great Bend:** Great Bend Recreation Commission, 1214 Stone Street
- Alicia Boor, Barton County Agricultural Extension Agent, aboor@ksu.edu, 620-793-1910

Jan. 26: **Overbrook:** Grace Community Church, 310 E 8th Street
- Darren Hibdon, Frontier District Crop Production Extension Agent, dhibdon@ksu.edu, 785-229-3520

Jan. 28: **Beloit:** NC Kansas Technical College Auditorium, Highway 24
- Sandra Wick, Post Rock District Crop Production Extension Agent, swick@ksu.edu, 785-282-6823

Jan. 29: **Marysville:** American Legion, 310 N 19th St
- Anastasia Johnson, Marshall County Agricultural Extension Agent, anastasia@ksu.edu, 785-562-3531

Lunch will be provided, courtesy of the sponsors. There is no cost to attend, but participants are asked to pre-register before Jan. 22.

Online registration at K-State Soybean Schools: <http://bit.ly/KSBEANSchools>

You can also register by emailing or calling the nearest local Research and Extension office for the location you plan to attend.

For more information, contact:

Doug Shoup, Southeast Area Crops and Soils Specialist

dshoup@ksu.edu

Stu Duncan, Northeast Area Crops and Soils Specialist

sduncan@ksu.edu

Ignacio Ciampitti, Crop Production and Cropping Systems Specialist

ciampitti@ksu.edu

6. K-State Sorghum Schools scheduled for early February



A series of four K-State Sorghum Production Schools will be offered in early-February 2016 to provide in-depth training for sorghum producers. The schools will be sponsored by Kansas Grain Sorghum Commission.

The one-day schools will cover issues facing sorghum producers: weed control strategies, crop production practices, soil fertility and nutrient management, insect control, irrigation, limited irrigation and iron chlorosis (western Kansas), sugarcane aphid, and risk management.

The schools will begin at 9 a.m. and adjourn at 3 p.m., including a farmer panel at the end of the School. The dates and locations are:

Feb. 2: **Scott City:** Wm. Carpenter 4-H Building, 608 N Fairground Rd
- John Beckman, Scott County Extension Agent, jbeckman@ksu.edu, 620-872-2930

Feb. 3: **Phillipsburg:** Phillips County Fair Building, 1481 US-183
- Cody Miller, Phillips-Rooks District Extension Agent, codym@ksu.edu, 785-543-6845

Feb. 4: **Ellsworth:** American Legion Post 174, 645 W 15th St
- Michelle Buchanan, Midway District Extension Agent, mbuchanan@ksu.edu, 785-472-4442

Feb. 5: **Emporia:** Bowyer Community Building, 2650 W US Hwy 50
- Brian Rees, Lyon County Extension Agent, brees@ksu.edu, 620-341-3220

Lunch will be provided, courtesy of the sponsors. There is no cost to attend, but participants are asked to pre-register before Jan. 29.

Online registration at K-State Sorghum Schools: <http://bit.ly/KSSORGHUMSchools>

You can also register by emailing or calling the nearest local Research and Extension office for the location you plan to attend.

For more information, contact:

Jill Barnhardt, Kansas Grain Sorghum Commission
jill@ksgrainsorghum.org

Ignacio Ciampitti, Crop Production and Cropping Systems Specialist
ciampitti@ksu.edu

Curtis Thompson, Weed Management Specialist
cthompso@ksu.edu

Lucas Haag, Northwest Area Crops and Soils Specialist
lhaag@ksu.edu

A.J. Foster, Southwest Area Crops and Soils Specialist
anserdj@ksu.edu

Stu Duncan, Northeast Area Crops and Soils Specialist
sduncan@ksu.edu

Doug Shoup, Southeast Area Crops and Soils Specialist
dshoup@ksu.edu

7. Canola College 2016 in Enid, February 18

Canola College 2016, "Taking Canola Production to the Next Level," will be held February 18, 2016 at the Chisholm Trail EXPO Center, 111 W. Purdue, in Enid, Oklahoma. This conference is sponsored by K-State, Oklahoma State University, Great Plains Canola Association (GPCA), and partners from the canola industry.

This will be the premier canola education/training event in the region in 2016. Canola College 2016 is for anyone with an interest in the canola industry, including experienced and first time growers, crop insurance agents, members of agricultural governmental agencies, and canola industry service and product providers. Attendees will hear from canola experts on a variety of key topics and will have the opportunity to visit with industry members who provide the goods and services needed to produce, handle, and market the crop.

Canola College 2016 topics will include:

Variety Selection – Mike Stamm, K-State Canola Breeder

Environmental and Cultural Impacts on Variety Selection - Heath Sanders, Canola Field Specialist, GPCA

Advanced Production Practices – Bob Schrock, Grower, Kiowa, Kan. and Jeff Scott, Grower, Pond Creek, Okla.

Managing Canola in Conventional and Conservation Tillage Systems – Jason Warren, OSU Extension Soil Management Specialist and Josh Bushong, OSU Canola Extension Assistant

Canola Production in Oklahoma Cropping Systems- Josh Lofton, OSU Cropping Systems Extension Specialist

Impact of Winter Wheat Stubble on Canola Establishment – Angela Post, OSU Extension Weed Specialist

In Season Nutrient Management for Canola Production – Brian Arnall, OSU Extension Soil Fertility Specialist

In Season Risk Management for Canola Production – Josh Lofton, OSU Cropping Systems Extension Specialist and Katie McCauley, OSU PaSS M.S. Candidate

Disease Management – John Damicone, OSU Extension Plant Pathologist

Insect Management – Tom Royer, OSU Extension Entomologist

New for 2016 will be the Canola Learning Laboratory. Attendees will be able to attend a learning laboratory where many of the concepts and theories presented throughout the conference will be on display through hands-on demonstrations. Participants will interact with specialists, get specific questions answered, and learn about the demonstrated concepts. Individual stations will focus on critical topics, such as: nutrient deficiency identification, herbicide uptake, weed/disease/insect identification, plant physiological changes with management practice, and winter survival.

Individuals can register for Canola College 2016 at www.canola.okstate.edu

For more information on Canola College, contact Ron Sholar, Executive Director, GPCA, at Jrsholar@aol.com or Josh Lofton, Extension Cropping Systems Specialist, OSU, at josh.lofton@okstate.edu

Mike Stamm, Canola Breeder
mjstamm@ksu.edu